ABSTRAK

Penelitian ini bertujuan untuk menganalisis daya dukung pondasi *borepile* tunggal berdiameter 80 cm berdasarkan hasil uji beban lapangan (*loading test*) pada Proyek Rehabilitasi dan Renovasi Stadion Teladan Medan. Analisis daya dukung dilakukan dengan menggunakan metode Meyerhof, Mazurkiewicz, serta PLAXIS 2D, sementara evaluasi penurunan pondasi dilakukan dengan pendekatan metode Chin, dan PLAXIS 2D. Data hasil uji beban dianalisis untuk menilai kapasitas aksial dan karakteristik deformasi *borepile.* Hasil menunjukkan bahwa daya dukung ultimate *borepile* memenuhi kebutuhan desain struktur, dengan nilai penurunan yang masih berada dalam batas aman sesuai kriteria teknis. Studi ini memberikan gambaran kuantitatif mengenai kinerja pondasi di lapangan serta menjadi acuan dalam perencanaan dan pelaksanaan pondasi serupa di proyek sejenis.

Kata kunci: daya dukung, *borepile*, *loading test*, Meyerhof, PLAXIS 2D, Chin, Mazurkiewicz, Stadion Teladan Medan.

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ABSTRACT

This study aims to analyze the bearing capacity of a single borepile foundation with a diameter of 80 cm based on field load test results conducted in the Rehabilitation and Renovation Project of Teladan Stadium, Medan. The bearing capacity analysis was carried out using the Meyerhof, Mazurkiewicz, and PLAXIS 2D methods, while the settlement evaluation was performed using the Chin method and PLAXIS 2D. The load test data were analyzed to assess the axial capacity and deformation characteristics of the borepile foundation. The results indicate that the ultimate bearing capacity of the borepile satisfies the structural design requirements, with settlement values remaining within acceptable limits according to technical criteria. This study provides a quantitative overview of the in-situ performance of the foundation and serves as a reference for the planning and construction of similar foundation systems in comparable projects.

Keywords: *bearing capacity; borepile; loading test; Meyerhof; PLAXIS 2D; Chin; Mazurkiewicz; Teladan Stadium Medan*.

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